

LA-7021-101.US/10021688

Application Serial No. 10/043,014
Reply to Office Action of December 31, 2003

REMARKS

The claims appearing in this application were 1-10. Claim 10 was indicated as containing allowable subject matter and if rewritten in independent form to include all of the limitations of that claim and the intervening claims, it would allowable. New Claim 11 has been added and is original Claim 10 rewritten in independent form and applicant submits it is therefore allowable and a notice of allowance with respect thereto is hereby requested.

Claim 1 has been amended to correct obvious typographical errors.

Claims 1-9 were rejected as being unpatentable. Claim 1 was rejected as being anticipated by Chiu, et al. U.S. 6,326,882. Claim 2 was rejected as being obvious over Chiu in view of Arichi, et al. U.S. 4,440,503, Claims 3-6 were rejected as being obvious over Chiu and Arichi as further modified by Hosotani, et al. U.S. 6,549,430 and Claims 7-9 were rejected as being obvious over Chiu and Arichi as further modified by Temple, U.S. 5,473,204. Applicant respectfully traverses each of the so rejections and respectfully requests reconsideration of Claims 1-9 in view of the following remarks.

CLAIM 1

Claim 1 was rejected as being anticipated by Chiu. In making this rejection, the examiner essentially repeated the language of Claim 1 and referred to various parts of the Chiu drawings thus indicating that those drawings responded to the elements recited by applicant in Claim 1. As is well understood in patent law, in order to constitute an anticipation of a claim a reference must, within its four corners, contain each and every element recited in the claim. Applicant respectfully submits that Chiu does not disclose the elements of Claim 1. Applicant recognizes that Chiu does disclose a circuit for controlling a ventilation device which, when the power switch is turned off, the light in the area goes off but the ventilation device still works for a predetermined amount of time and then shuts off automatically. In addition, there is a further timing period such that if the light switch is not later turned on for some period of time such as 12 to 24 hours, the circuit will automatically repeat turning the fan on and off for short periods of time (approximately 5 minutes). Thus applicant recognizes that the end object; namely, providing a circuit which causes an exhaust fan to continue to run after a light in an enclosure has been turned off is the same for both Chiu and Applicant. However, the manner in which Applicant accomplishes this task is totally different from that taught by Chiu.

APPLICANT'S DEVICE

Applicant provides a counter which counts pulses when the timer is activated (upon the light switch being turned off) and when the counter reaches a predetermined count a signal is generated which deactivates the exhaust fan. To accomplish this, applicant provides a pulse generator and a counter. The output of the pulse generator (a series of pulses) is applied to the counter. When the light switch is turned on, an output signal generated by a detector circuit connected thereto activates the pulse generator but simultaneously deactivates the counter. The

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counter is only activated when the lamp switch is turned off and the output signal from the detector so indicates. It is only then that the beginning of the grace period starts with the grace period ending when the counter counts the predetermined preset number of counts desired to determine the grace period. That time is variable by the user depending upon the particular application.

Applicant respectfully submits that Chiu does not disclose a pulse generator, a counter, activation of a pulse generator upon the light switch being activated, the deactivation of the counter when the lamp switch is turned on, the counter being enabled when the lamp switch is turned off, and the counter continuing to count until the counter reaches the predetermined count.

THE CHIU REFERENCE

Examiner has characterized Chiu as including "a timer (2) comprising a pulse generator (22, 23) and a counter (26)," applicant respectfully submits that the elements 22, 23 (Figure 3B) of Chiu is not a pulse generator. The element 22 is a differentiator which receives a positive going wave form when the light switch is turned off as indicated at line C of Fig. 5 which when passed through the differentiator becomes a pulse as shown at line B of Figure 5. That pulse is applied to element 23, which is clearly designated as an OR gate, as one input thereto. Element 26 is a monostable multivibrator which through the utilization of the short and long time delay 211, 212 is controlled to have two different lengths of delay-of-time (say one minute short delay of 211, or five minutes long delay of 212), Chiu column 3, lines 28-31. Thus when triggered by the output of the OR gate being applied to the monostable multivibrator 26, the monostable multivibrator provides a single output waveform as shown at line J of Figure 5. That output waveform is either one minute or five minutes long. The output of the monostable multivibrator 26 is applied as one input to the AND gate 210. The other input to the ANDgate 210 comes from the sleep timer circuit 4 which has two different time limits (say, 12 hour short sleep timer 42 or 24 hours long sleep time 43), column 3, lines 31-34. The a stable multivibrator 24 generates a plurality of pulses as shown at line E of Figure 5 every one-half hour or every one hour. These signals from the a stable multivibrator are then differentiated through the differentiator 25 and are shown as positive going pulses at line F of Figure 5 and are applied as the other input to be OR gate 23. In addition, it should be noted that the output of the sleep timer circuit 4 is applied as the other input to the AND gate 210.

It will thus be recognized that the Chiu circuit operates in the following way: When the light switch is turned on and the signal from the isolated voltage converter circuit 12 is applied to the OR gate 27, the output thereof is connected to the driver circuit 31 causing the fan to become operative. When the light switch is turned off the pulse generated by the differentiator 22 is passed through the OR gate 23 to the monostable multivibrator 26 which provides an output signal to the AND gate 210. Since the sleep timer circuit is also providing an input signal to the AND gate 210 at the same time, the output of the AND gate 210 is now applied as an input to the OR gate 27 which causes the fan to continue to operate. The fan will continue to operate so long as the monostable multivibrator remains in that state providing the positive going output signal

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as shown on line J of Figure 5. That is, one minute or five minutes in duration, depending upon whether the short delay or long delay is applied to the monostable multivibrator 26. When the state of the monostable multivibrator changes, then the output signal appearing on line J of Figure 5 goes to a low or zero state and no output signal passes through the AND gate 210 thus causing the fan to turn off.

Similarly, when the astable multivibrator generates a pulse every one-half or every one hour depending upon which repeat cycle is activated, the output signal therefrom is differentiated and applied as a positive pulse to the OR gate 23. This in turn causes the monostable multivibrator 26 to generate an output signal as shown on line J of Figure 5 which is applied as one input to the AND gate 210, the other input being from the sleep timer circuit. The output of the AND gate 210 is applied to the OR gate 27 causing the fan to turn on for the one minute or five minute period as determined by the short or long time delay applied to the monostable multivibrator 26.

Applicant respectfully submits that Chiu does not teach (1) a timer comprising a pulse generator and a counter, (2) wherein the pulse generator is activated upon receipt of an output signal from the monitor which detects when the lamp switch is activated and (3) at the same time disables the counter so long as the lamp switch is activated and the output signal from the monitor is at its first level, (4) the counter is enabled when the lamp switch is deactivated and the monitor output signal level changes to a second level so that (5) the counter counts the train of pulses for a predetermined period of time, (6) that predetermined time being variable.

Based on the foregoing, applicant respectfully submits that the patent to Chiu does not in any way anticipate Claim 1 and applicant respectfully requests reconsideration of Claim 1 as amended and the issuance of a Notice of Allowance with respect thereto.

CLAIM 2

Examiner rejected Claim 2 over the patent to Chiu but cited Arichi for the teaching of an analog oscillator alleging that one skilled in the art would be motivated to modify Chiu to include the analog oscillator taught by Arichi. Applicant respectfully traverses this rejection.

Arichi does not teach an analog oscillator but rather teaches an oscillator for developing outputs or a pulse train followed by a series of frequency dividers for dividing the frequency of the pulse train which is then followed by a multiplexer and further dividers to ultimately provide a desired output. Applicant respectfully submits that the circuit as taught by Arichi could not be used in the Chiu structure for any purpose other than possibly to provide appropriate timing signals for the short repeat cycle 28, long repeat cycle 29, short sleep time 42, long sleep time 43 or the short or long delay times 211 and 212. Since Chiu does not have a counter, the pulse train as generated by Arichi would have no function in the Chiu structure. Applicant therefore respectfully submits that Claim 2 which merely modifies the structure of Claim 1 as above described to include an analog oscillator as the pulse generator with means for varying the frequency of the analog oscillator would not be obvious in view of the teachings of Chiu and

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Arichi. Applicant therefore respectfully requests reconsideration of Claim 2 and the issuance of a Notice of Allowance with respect thereto.

CLAIMS 3-6

Claims 3-6 were rejected as unpatentable with Chiu and Arichi as further modified by Hosotani. Applicant again adopts the discussion with regard to Claim 1 above with respect to the reference Chiu and with regard to Claim 2 with respect to the reference Arichi and again reemphasizes that Chiu as modified by Arichi do not in any way teach the structure as set forth in Claims 3-6. Where in the Chiu structure would one place the FET so as to modify the structure as suggested by Examiner? It is respectfully submitted that a FET would not work in the Chiu structure. Applicant respectfully submits that Claims 3-6 are not anticipated by Chiu and Arichi as further modified by Hosotani and respectfully requests reconsideration thereof and the issuance of a Notice of Allowance with respect thereto.

CLAIMS 7-9

Claims 7-9 were rejected as unpatentable over Chiu and Arichi as modified further by Temple on the basis that it would be obvious to modify Chiu with a Triac as taught by Temple. Applicant again adopts the discussions with regard to the reference Chiu as above set forth and respectfully submits that Chiu does not teach the structure of the claims. More specifically, with regard to Claims 7-9, an attempt to modify the structure of Chiu by including a Triac as taught by Temple would not correct the lacking of the teachings of Chiu and Arichi. Again, where would one insert the Triac of Temple into the structure taught by Chiu as modified by Arichi?

Applicant respectfully submits that Claims 2-9 are not rendered obvious by Chiu and Arichi as modified by Hosotani and Temple and respectfully requests reconsideration thereof and the issuance of a Notice of Allowance with respect thereto.

In view of the foregoing amendments and these remarks, Applicant respectfully requests reconsideration of Claims 1-9 as amended. Applicant respectfully submits that Claims 1-9 as amended define subject matter which is patentable over the teachings of Chiu and Chiu as modified by Arichi, Hosotani and Temple. Applicant has further analyzed the remaining references made of record and respectfully submits that they separately or in combination with the cited references do not render any of the claims presently under consideration in this application unpatentable. Applicant, therefore, respectfully requests the issuance of a Notice of Allowance with respect to Claims 1-9 and 11.

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If any additional fees or credits are due, please charge our Deposit Account No. 50-0337,
under Order No. LA-7021-101XX from which the undersigned is authorized to draw.

Respectfully submitted,



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Date: March 29, 2004

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